



State of New Hampshire
Department of Health and Human Services
Division of Public Health Services



West Nile Encephalitis in Horses

Can West Nile virus cause illness in horses?

Yes, horses can be infected with West Nile virus (WNV), and horses have tested positive for the virus here in New Hampshire.

What are the signs of West Nile virus in a horse?

In a small number of horses, the virus can affect the central nervous system and cause encephalitis. Horses with severe clinical signs can die as a result of the infection. Clinical signs may include one or more of the following: loss of appetite, depression, fever, weakness of limbs, paralysis of limbs, impaired vision, ataxia, head pressing, head tilt, aimless wandering, convulsions, inability to swallow, circling, hyperexcitability, or coma. However, it is important not to presume that horses with clinical signs of encephalitis have West Nile encephalitis. A definitive diagnosis requires ruling out other important diseases—such as rabies, botulism, equine protozoal myeloencephalitis, and other mosquito-borne viral diseases caused by Eastern, Western, and Venezuelan encephalitis viruses—that also exhibit neurological signs. It is important to remember that only a relatively small number of infected horses ever develop neurological signs of this disease, and that approximately half of those horses achieve complete recovery.

How do horses become infected with West Nile virus?

Horses become infected the same way humans become infected: by the bite of an infected mosquito.

Can infected horses be carriers and transmit West Nile virus to humans?

Infected mosquitoes transmit West Nile virus. There is no documented evidence of animal-to-person transmission of West Nile virus. Veterinarians should take the usual infection control precautions when caring for an animal suspected to have this or any other viral infection.

Can a horse infected with West Nile virus infect other horses?

No. There is no documented evidence that West Nile virus is transmitted from animal to animal. In fact, humans and horses are known as "dead-end" or "terminal" carriers. These carriers have so few viral particles in the blood stream that a mosquito cannot accumulate enough of the virus while taking a blood meal to subsequently transmit the infection. Evidence also exists that the virus can be found in the horse's blood stream for only a few days during the entire course of the infection.

How long can a horse be infected with West Nile virus?

The answer is not known at this time.

How can I confirm that a horse is infected with West Nile virus?

A positive diagnosis of West Nile infection can be made only by examining blood or pathology testing from an infected horse.

How are West Nile infection and West Nile encephalitis treated?

To date, no treatment for infected horses exists because no specific antiviral agents have been identified that would affect West Nile virus. Treatment of affected horses should be based on the presenting signs and focused on reducing the severity of the disease. Weakened and impaired animals should be protected from injuring themselves. Fluid and nutrient supportive therapy also may be required, either by intravenous methods or by stomach tube.

Is there a vaccine against West Nile Virus?

Yes, there is an approved vaccine for equine use. Contact your veterinarian for further information.

Is my farm a mosquito-breeding site?

Several habitats found on farms can support the production of mosquitoes. Larvae can develop in watering troughs, small ponds, irrigation ditches, rain barrels, manure lagoons, ruts where farm equipment frequently travels and other areas where water is allowed to accumulate. Even hoof prints can accumulate water and provide a breeding habitat. The close proximity of livestock, nuisance animals (such as birds) and other animals to mosquito breeding habitats increases the risk for the transmission of animal and human disease.

What can I do to reduce the horse's risk of becoming infected with West Nile virus?

Horse owners can reduce the likelihood of exposure to mosquitoes by implementing the following pest management practices:

- House horses inside stables during peak periods of mosquito activity (dusk and dawn).
- Avoid turning on lights inside the stable during the evening and overnight. Mosquitoes are attracted to incandescent bulbs.
- Place incandescent bulbs about 50 yards from the stable to attract mosquitoes away from the horses. Black lights are of little value as attractants for mosquitoes.
- Remove all birds, including chickens that are in or near the stable.
- Periodically examine the property for dead birds such as crows. Handle dead birds with caution. Further information on dead bird handling and reporting can be found in the fact sheet "Handling Dead Birds."
- Carefully examine your property and eliminate locations that could serve as breeding grounds for mosquitoes. Shallow standing water, used tires, and manure storage pits are ideal places for mosquitoes to breed.

- Topical preparations containing mosquito repellents are available for horses. Read the product label before using, and follow all instructions carefully.
- Stable premises can be fogged in the evening to reduce the number of mosquitoes.

What is the State doing to address the possible presence of West Nile virus?

The New Hampshire Department of Health and Human Services, along with other city, state and federal agencies, has developed a plan to assess for the presence of West Nile virus and to find and control the kind of mosquitoes known to carry the virus. This plan includes trapping and testing mosquitoes in selected areas at selected times throughout the state, testing dead birds and other animals, and human surveillance. If West Nile virus is found, focused and limited applications of pesticides may be needed to prevent the spread to people.

Should I report dead birds?

Local Animal Control Officers, Health Officers and the Department of Health and Human Services are taking reports on dead bird sightings within New Hampshire. While we are interested in collecting information about dead birds as part of our efforts to understand West Nile virus, we will not be testing every dead bird reported. Crows and blue jays are of particular interest since they generally die once infected with the West Nile virus. The Department will be collecting only a small sample of dead birds reported. However, we encourage New Hampshire residents to report all dead bird sightings to assist the department's monitoring efforts.

**For more information call the
New Hampshire Department of Health and Human Services,
West Nile Virus Information line
1-866-273-NILE (6453)**

**For specific questions about WNV in horses,
please call the NH Department of Agriculture at (603) 271 –2404.**

**For health care providers with clinical questions
or to report human suspect or probable cases,
please contact the NH Communicable Disease Control Section at
1-800-852-3345 ext. 4496, or 1-603-271-4496.**